

CLAIMS

What is claimed is:

1. A system for transporting ATM cells over an IP backbone, the ATM cells including an ATM destination address, the system comprising:
  - a source gateway interconnected to the IP backbone, said source gateway operable to encapsulate ATM cells into IP packets;
  - a destination gateway interconnected to the IP backbone, said destination gateway operable to receive IP packets from said IP backbone and decapsulate the ATM cells from the IP packets; and
  - a controller interconnected to the IP backbone, said controller operable to translate the ATM destination address to a corresponding destination gateway address.
2. The system of claim 1 wherein said source gateway transmits an IP signaling message to said controller upon receipt of an ATM signaling message.
3. The system of claim 2 wherein the ATM signaling message is an ATM UNI signaling message.
4. The system of claim 2 wherein the IP signaling message follows the H.323 protocol.

5. The system of claim 1 wherein said source gateway encloses the received ATM cell with TCP/IP headers to form the IP packet.

6. The system of claim 1 wherein said source gateway encloses the received ATM cell with UDP/IP headers to form the IP packet.

7. The system of claim 1 wherein said source gateway transmits an ATM UNI signaling message via an intermediate protocol to said destination gateway upon receipt of a signaling message from said controller.

8. A system for transporting ATM signaling cells and ATM bearer cells over an IP backbone, the ATM cells including an ATM destination address, the system comprising:

- a source gateway interconnected to the IP backbone, said source gateway operable to encapsulate the received ATM bearer cells to IP packets;
- a destination gateway interconnected to the IP backbone, said destination gateway operable to receive the IP packets and decapsulate the ATM bearer cells from the IP packets; and
- a controller interconnected to the IP backbone, said controller operable to translate the ATM destination address to the corresponding destination gateway;

wherein said source gateway transmits an IP signaling packet to said controller upon receipt of ATM signaling cells.

9. The system of claim 8 wherein the ATM signaling cells are ATM UNI signaling messages.

10. The system of claim 8 wherein the IP signaling packet follows the H.323 protocol.

11. The system of claim 8 wherein the IP packets are further encoded for TCP/IP protocol.

12. The system of claim 8 wherein the IP packets are further encoded for UDP/IP protocol.

13. A method for transporting ATM cells over an IP backbone, said method comprising the steps of:

receiving an ATM signaling cell at a source gateway;

converting the ATM signaling cell to an IP signaling packet;

translating a VCI address in the ATM signaling cell to a corresponding IP address;

receiving ATM bearer cells at the source gateway;

encapsulating ATM bearer cells with IP headers to form IP packets; and

transmitting the IP packets onto an IP backbone.

14. The method of claim 13 wherein the step of translating comprises the further steps of:

transmitting an ATM destination address in the ATM cell to a controller;  
receiving a corresponding IP address from the controller.

15. The method of claim 14 wherein the step of receiving a corresponding IP address from the controller is performed via a H.323 protocol message.

16. The method of claim 13 including the further steps of:

transmitting a signaling message to a destination gateway corresponding to the translated IP address.

17. The method of claim 16 wherein the signaling message to the destination gateway uses Q.2931 signaling format.

18. The method of claim 13 wherein the IP packet is further encoded for TCP protocol.

19. The method of claim 13 wherein the IP packet is further encoded for UDP protocol.

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